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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,357	11/14/2003	Mahendra Pakala	2959P	3326
29141	7590	01/05/2005	EXAMINER	
SAWYER LAW GROUP LLP			LE, THAO P	
P O BOX 51418			ART UNIT	
PALO ALTO, CA 94303			PAPER NUMBER	
			2818	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,357	Applicant(s) PAKALA ET AL.	
	Examiner Thao P. Le	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/14/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2 pages</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restriction

Applicant's election **with traverse** of claims **1-14** is acknowledged.

Because Applicant did not distinctly and specifically point out the supposed error in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Applicants have the right to file a divisional, continuation or continuation-in-part application covering the subject matter of the non-elected claims.

Information Disclosure Statement

Information Disclosure Statement (IDS) filed on 11/14/03 and **05/17/04** and made of record. The references cited on the PTOL 1449 form have been considered.

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 14 are rejected under 35 USC 102 (b) as being anticipated by Brady et al., U.S. Patent No. 5,239,504.

Regarding claims 1, 14, Brady et al. discloses a magnetic memory comprising: a plurality of magnetic elements, each of the magnetic elements being configured to be written using spin transfer, at least one stress-assist layer (Figs. 5-6) to exert at least one stress on magnetic element during writing, the stress-assist layer including at least one of piezoelectric and an electrostrictive material (Cols. 1-8).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Iwasaki (U.S. Patent No. 6,625,058), Redon et al. (U.S. Patent No. 6,532,164) disclose the magnetic memory similar to Brady et al. and as recited in claims 1 and 14. Sang-Koog Kim et al., "Voltage control of a magnetization easy axis in piezoelectric/ferromagnetic hybrid films" (submitted by applicant as prior art) also discloses a magnetic memory similar to what recited in claims 1 and 14: magnetic elements, stress-assist layer made of electrostrictive material or PZT configured to exert stress on magnetic element (Page 2).

Regarding claims 2-3, Brady et al. discloses wherein the at least one stress induces at least one anisotropy on magnetic element and wherein the stress is in a direction perpendicular to a plane of magnetic layers (Fig. 1 and Cols. 1-8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brady et al., U.S. Patent No. 5,239,504, in view of AAPA (Applicant Admitted Prior Art).

Regarding claims 3-10, Brady et al. doesn't disclose the magnetic element includes a free layer, a capping layer, the magnetic element includes spin tunneling junction, one spin valve which includes a first pinned layer having a first ferromagnetic layer closest to the free layer and wherein the at least one spin tunneling junction portion includes a second pinned layer having a second ferromagnetic layer closest to

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the pinned layer, the first ferromagnetic is in a first direction and the second ferromagnetic is in a second direction opposite to the first direction. However, AAPA discloses the magnetic element includes spin tunneling junction, pinned layer, first ferromagnetic layer and second ferromagnetic layer as claimed in claims 3-10 (Figs. 1A-1B and depending portions of specification). It would have been well known in the art that those limitations recited in claims 3-10 are included in the magnetic memory.

Regarding claims 11-13, Brady et al. discloses the magnetic memory includes stress-assist layer but fails to disclose the stress-assist layer surrounds the sides of magnetic element or resides between the plurality of word lines and magnetic element and the stress assist layer includes bi layer. However, it would have been well known in the art that the magnetic memory includes word lines and it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the stress assist layer resides between the word lines or surrounds the sides of the magnetic element in order to insulate, protect each word line and magnetic element from diffusion or contamination. It would have been obvious to one having ordinary skill in the art that the stress assist layer is one layer or bi layer would yield the same results and carry out the same function.

When responding to the office action, Applicants' are advice to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao P. Le whose telephone number is 571-272-1785. The examiner can normally be reached on M-T (7-6).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Thao P. Le', with a stylized, cursive script.

Thao P. Le
Examiner